Index to Instrumentation Technology, Volume 25, 1978

(News items are denoted by "N" after the page number)

Subject — **Issue, Page**

Advanced control
May 51; Sep 115; Oct 49; Oct 55

Analog control
Nov 67

Batch process control
Jan 47; Jan 55; Mar 49; Oct 43

Boiler control
Mar 57; Oct 55

Compressor control
May 43

Computers, digital
Mar 41; May 61

Continuous process control
Jun 51; Jul 67

Controller tuning
Jun 43

Digital control
Jun 51; Nov 53

Distillation control
Jun 43; Jul 67; Sep 115; Oct 49

Distributed control
Feb 43; Jun 51; Jul 55; Nov 45; Dec 43

Engine control
Aug 47

Flow
Sep 145

Food plant control
Oct 43

Gas analysis
Feb 53; Jul 59

Gas sampling
Feb 53

Hierarchical control
Apr 41

Instrument maintenance
Mar 41; May 61

Intrinsic safety
Aug 55

Lasers
Aug 63

Level
Sep 133; Sep 141

Liquid analyzers
Feb 67

Microprocessors
Feb 43; Apr 47; Jun 51; Jul 55; Nov 45; Nov 53; Nov 61

Minicomputers
Feb 43; Jul 59; Nov 53

Multiplexing
Apr 47; Jul 55

Noise, acoustic
Feb 61

Noise, electrical
Sep 133; Oct 59

Nondestructive testing
Jan 39; Aug 63

Occupational safety
July 59

On-stream analysis
Feb 53; Feb 67; Jul 59; Jul 67; Oct 49

Operator interfaces
Dec 43; Dec 49

Override control
Nov 67

Packaged control systems
May 55

Paper mill control
Mar 49

Pollution control
Feb 53; Apr 41

Power plant control
Feb 67; Apr 47

Pressure
Jan 60

Pressure transmitters
Jul 47

Programmable controllers
Jan 47; Jan 55; Mar 49; May 43; Sep 125

Programming
Sep 125

Rangeability
Apr 53

Semiconductor devices
Aug 69

Sensors
Aug 47

Short courses
May 67

Simulation
Jun 43; May 51; Sep 115

Specific ion monitoring
Feb 67; Nov 61

Strain
Sep 105

Supervisory control
Jun 51

Telemetry
Sep 105

Temperature
Sep 105; Dec 53; Jun 59

Turbine monitoring
Sep 105

Ultrasonics
Jan 39

Valves
Apr 53

Authors — **Issue, Page**

Aptowicz, B. S. ..... Apr 41
Barnes, S. ..... Nov 53
Boyd, R. V. ..... Jul 59
Boyd, W. R. ..... Jan 47
Brouwer, B. H. ..... Mar 41
Buckley, P. S. ..... Oct 49; Sep 115
Buschart, R. J. ..... Jan 55
Buzzard, W. S. ..... Nov 67
Calder, C. A. ..... Aug 63
Campen, C. H. ..... Sep 145
Carlson, J. ..... Jan 60
Cho, C. H. ..... Oct 55
Comins, C. C. ..... Aug 55
Coulam, R. W. ..... Jun 59
Coulam, W. J. ..... Jun 59
Crofoot, D. ..... Mar 49
Cronin, D. J. ..... May 61
Day, R. E. ..... Apr 41
Dear, T. A. ..... Feb 61
Deters, R. A. ..... Aug 69
Doukas, N. ..... Jun 43
Eubanks, C. A. ..... Sep 145
Flannery, J. M. ..... Feb 67
Fraade, D. J. ..... Nov 61
Furuta, K. ..... Sep 125
Geist, R. O. ..... May 61
Graupmann, R. ..... Nov 53
Guarino, C. F. ..... Apr 41
Hales, D. B. ..... Jun 59
Harrison, T. J. ..... Feb 43
Hess, A. F. ..... Apr 41
Hohlfeld, E. F. ..... Jan 55
Hurlbert, A. W. ..... Mar 57
Johnston, J. P. ..... Jan 39
Kaminski, R. K. ..... May 55
Kemp, R. E. ..... Sep 105
Kreiling, J. ..... Oct 43
Laspe, C. G. ..... May 51
LaTour, P. R. ..... Jul 67
Lester, D. J. ..... Feb 53
Lewis, C. K. ..... Jun 59
Lowings, S. W. ..... Jan 47
Luyben, W. L. ..... Jun 43
Marchant, G. R. ..... Jun 59
Mears, F. C. ..... Nov 45
Moore, C. ..... Nov 53
Musick, J. E. ..... Sep 141
Nagakawa, K. ..... Dec 43
Radziul, J. V. ..... Apr 41
Riley, J. A. ..... Jun 59
Saitta, G. N. ..... May 43
Savelyev, M. ..... Mar 49
Sitter, R. P. ..... Oct 59; Sep 133
Summers, W. A. ..... Apr 47
Taft, E. M. ..... Jan 47
Tierstein, L. ..... Dec 53
Togino, K. ..... Sep 125
Troutman, P. H. ..... Jul 55
Uyetani, A. ..... Dec 43
Wilcox, W. W. ..... Aug 63
Wing, P. ..... Apr 53
Wolber, W. G. ..... Aug 47
Wolny, R. F. ..... Jul 47
Yoshizaki, K. ..... Dec 43
Zahr, K. M. ..... Apr 47
Zey, R. ..... Dec 49

Articles — **Page**

January
Low-frequency Ultrasonic Testing 39
Programmable Logic Controllers in Solution Mining 47
A User's Experience with Programmable Controllers 55
Pressurizing Underground Cables 60

February
Micros, Minis and Multiprocessing 43
EPA Requirements for Stack Monitors 53
Analyzing Valve Noise 61
Monitoring Sodium in Power Plants 67

March
Maintaining Digital Equipment 41
PLC Controls Batch Mixing of Pulp 49
Air Flow Characterization Improves Boiler Efficiency 57

April
Automation of the Philadelphia Waste System .. 41
Microprocessor-based Multiplexing 47
Plain Talk on Valve Rangeability 53

May
PC Manages Vapor Recovery System at Alaska Pipeline Terminal 43
Optimal Operation of Ethylene Plants 51
Instrumentation in Equipment Packages 55
A Philosophy of Computer Maintenance 61

Index to Instrumentation Technology, Volume 25, 1978

(News items are denoted by "N" after the page number)

Subject — **Issue, Page**

Advanced control
May 51; Sep 115; Oct 49; Oct 55

Analog control
Nov 67

Batch process control
Jan 47; Jan 55; Mar 49; Oct 43

Boiler control
Mar 57; Oct 55

Compressor control
May 43

Computers, digital
Mar 41; May 61

Continuous process control
Jun 51; Jul 67

Controller tuning
Jun 43

Digital control
Jun 51; Nov 53

Distillation control
Jun 43; Jul 67; Sep 115; Oct 49

Distributed control
Feb 43; Jun 51; Jul 55; Nov 45; Dec 43

Engine control
Aug 47

Flow
Sep 145

Food plant control
Oct 43

Gas analysis
Feb 53; Jul 59

Gas sampling
Feb 53

Hierarchical control
Apr 41

Instrument maintenance
Mar 41; May 61

Intrinsic safety
Aug 55

Lasers
Aug 63

Level
Sep 133; Sep 141

Liquid analyzers
Feb 67

Microprocessors
Feb 43; Apr 47; Jun 51; Jul 55; Nov 45; Nov 53; Nov 61

Minicomputers
Feb 43; Jul 59; Nov 53

Multiplexing
Apr 47; Jul 55

Noise, acoustic
Feb 61

Noise, electrical
Sep 133; Oct 59

Nondestructive testing
Jan 39; Aug 63

Occupational safety
July 59

On-stream analysis
Feb 53; Feb 67; Jul 59; Jul 67; Oct 49

Operator interfaces
Dec 43; Dec 49

Override control
Nov 67

Packaged control systems
May 55

Paper mill control
Mar 49

Pollution control
Feb 53; Apr 41

Power plant control
Feb 67; Apr 47

Pressure
Jan 60

Pressure transmitters
Jul 47

Programmable controllers
Jan 47; Jan 55; Mar 49; May 43; Sep 125

Programming
Sep 125

Rangeability
Apr 53

Semiconductor devices
Aug 69

Sensors
Aug 47

Short courses
May 67

Simulation
Jun 43; May 51; Sep 115

Specific ion monitoring
Feb 67; Nov 61

Strain
Sep 105

Supervisory control
Jun 51

Telemetry
Sep 105

Temperature
Sep 105; Dec 53; Jun 59

Turbine monitoring
Sep 105

Ultrasonics
Jan 39

Valves
Apr 53

Authors — **Issue, Page**

Aptowicz, B. S. ..... Apr 41
Barnes, S. ..... Nov 53
Boyd, R. V. ..... Jul 59
Boyd, W. R. ..... Jan 47
Brouwer, B. H. ..... Mar 41
Buckley, P. S. ..... Oct 49; Sep 115
Buschart, R. J. ..... Jan 55
Buzzard, W. S. ..... Nov 67
Calder, C. A. ..... Aug 63
Campen, C. H. ..... Sep 145
Carlson, J. ..... Jan 60
Cho, C. H. ..... Oct 55
Comins, C. C. ..... Aug 55
Coulam, R. W. ..... Jun 59
Coulam, W. J. ..... Jun 59
Crofoot, D. ..... Mar 49
Cronin, D. J. ..... May 61
Day, R. E. ..... Apr 41
Dear, T. A. ..... Feb 61
Deters, R. A. ..... Aug 69
Doukas, N. ..... Jun 43
Eubanks, C. A. ..... Sep 145
Flannery, J. M. ..... Feb 67
Fraade, D. J. ..... Nov 61
Furuta, K. ..... Sep 125
Geist, R. O. ..... May 61
Graupmann, R. ..... Nov 53
Guarino, C. F. ..... Apr 41
Hales, D. B. ..... Jun 59
Harrison, T. J. ..... Feb 43
Hess, A. F. ..... Apr 41
Hohlfeld, E. F. ..... Jan 55
Hurlbert, A. W. ..... Mar 57
Johnston, J. P. ..... Jan 39
Kaminski, R. K. ..... May 55
Kemp, R. E. ..... Sep 105
Kreiling, J. ..... Oct 43
Laspe, C. G. ..... May 51
LaTour, P. R. ..... Jul 67
Lester, D. J. ..... Feb 53
Lewis, C. K. ..... Jun 59
Lowings, S. W. ..... Jan 47
Luyben, W. L. ..... Jun 43
Marchant, G. R. ..... Jun 59
Mears, F. C. ..... Nov 45
Moore, C. ..... Nov 53
Musick, J. E. ..... Sep 141
Nagakawa, K. ..... Dec 43
Radziul, J. V. ..... Apr 41
Riley, J. A. ..... Jun 59
Saitta, G. N. ..... May 43
Savelyev, M. ..... Mar 49
Sitter, R. P. ..... Oct 59; Sep 133
Summers, W. A. ..... Apr 47
Taft, E. M. ..... Jan 47
Tierstein, L. ..... Dec 53
Togino, K. ..... Sep 125
Troutman, P. H. ..... Jul 55
Uyetani, A. ..... Dec 43
Wilcox, W. W. ..... Aug 63
Wing, P. ..... Apr 53
Wolber, W. G. ..... Aug 47
Wolny, R. F. ..... Jul 47
Yoshizaki, K. ..... Dec 43
Zahr, K. M. ..... Apr 47
Zey, R. ..... Dec 49

Articles — **Page**

January
Low-frequency Ultrasonic Testing 39
Programmable Logic Controllers in Solution Mining 47
A User's Experience with Programmable Controllers 55
Pressurizing Underground Cables 60

February
Micros, Minis and Multiprocessing 43
EPA Requirements for Stack Monitors 53
Analyzing Valve Noise 61
Monitoring Sodium in Power Plants 67

March
Maintaining Digital Equipment 41
PLC Controls Batch Mixing of Pulp 49
Air Flow Characterization Improves Boiler Efficiency 57

April
Automation of the Philadelphia Waste System .. 41
Microprocessor-based Multiplexing 47
Plain Talk on Valve Rangeability 53

May
PC Manages Vapor Recovery System at Alaska Pipeline Terminal 43
Optimal Operation of Ethylene Plants 51
Instrumentation in Equipment Packages 55
A Philosophy of Computer Maintenance 61

June
Control of Sidestream Columns Separating Ternary Mixtures 43
Digital Controls for Continuous Copper Smelting . 51
A Linear-response Diode Temperature Sensor ... 59

July
Applying Electronic ΔP Transmitters 47
A Digital Link for Controllers and Valves 55
Computer-assisted Monitoring Promotes On-the-Job Safety 59
Composition Control of Distillation Columns 67

August
New Sensors for Automobile Engine Control 47
Problems and Solutions for Intrinsically Safe Systems 55
Materials Testing Using Laser Energy Deposition 63
Diodes Stabilize LED Output; Tool Removes IC Flat Packs 69

September
Close-coupled Telemetry for Measurements on Gas Turbines 105
Distillation Column Design Using Multivariable Control—Part I 115
A Computer Route to Ladder Diagrams and PC Programs 125
RFI—What It Is and How to Control It—Part I .. 133
Linearization of the Level-to-volume Relationship 141
Purge and Leakage Measurement 145

October
Food Processing—Fruitful Future for Instrumentation? 43
Distillation Column Design Using Multivariable Control—Part II 49
Optimum Boiler Load Allocation 55
RFI—What It Is and How to Control It—Part II .. 59

November
Distributed Computer Control for an Offshore Platform 45
Using Cost/Benefit Analyses to Select Digital Control System 53
Using a Microprocessor to Solve pH Control Problems 61
Override Strategies for Analog Control 67

December
Standardized Operator Interfaces for Distributed Control Systems 43
Using Interactive Color CRTs as Operator Interfaces 49
Selecting Temperature Regulators and Controllers 53

New From ISA...

Thomas J. Harrison, Ph. D., editor,
MINICOMPUTERS IN INDUSTRIAL CONTROL
With contributions from Raymond H. Ash, Richard L. Curtis, Thomas M. Stout, Ph.D., and Kirwin A. Whitman.
List: $27.50
Members: $22.00

Ralph L. Moore,
NEUTRALIZATION OF WASTE WATER BY pH CONTROL.
Techniques for waste water treatment by keeping pH within specified limits.
List: $18.00
Members: $14.50

William H. Bleuel, Ph. D., and Joseph D. Patton, Jr., M.B.A.,
SERVICE MANAGEMENT: PRINCIPLES AND PRACTICES.
Text and reference containing proven, practical techniques for the analysis of maintenance support.
List: $19.50
Members: $16.00

E.C. Magison,
ELECTRICAL INSTRUMENTS IN HAZARDOUS LOCATIONS.
3rd edition revised & enlarged. The authoritative reference work in its field. Has been expanded by one-third; coverage of international standards is an important addition.
List: $35.00
Members: $28.00

Joel O. Hougen,
MEASUREMENTS AND CONTROL APPLICATIONS FOR PRACTICING ENGINEERS.
2nd edition revised and enlarged version of the 1972 work which was selected by the McGraw-Hill Chemical Engineers Book Club.
List: $27.50 (tent)
Members: $22.00 (tent)
Fall '78

Circle No. 150 on Reader Service Card

CLASSIFIED ADVERTISEMENTS

Positions Wanted: $1.50 per line for ISA members: $3.00 per line for non-members, minimum 3 lines. Box number will be charged as additional line. Payable in advance.
Display Classified: $40.00 per column inch. One inch minimum.
Classified advertisements must reach Instrumentation Technology no later than 5th of month preceding.

INSTRUMENT ENGINEERS
Openings with corporates, engineer/constructors and utilities for engineers with minimum of 5 years of specification, design, evaluation or installation and debugging of control systems and instrumentation for refineries, petrochemical, chemical, pharmaceutical and power plants, air and water pollution control installations. To $30,000. Fee paid. H. R. Fairchild (201) 233-8444.
CONSULTANTS, INC.
189 Elm Street, Westfield, NJ 07090

INSTRUMENTATION PROFESSIONAL—design, construction, user, and instrument manufacturer perspectives. Knowledgeable in computer technology. BSCHE. Registered. Recent concentration in pulp and paper. Seek challenge and responsibility. Sunbelt, only. Reply to box 2597 c/o Instrumentation Technology.

INSTRUMENT TECHNICIAN
Cutter Laboratories, Inc., manufacturer of pharmaceuticals, world leader in processing human plasma has immediate openings due to rapid growth and expansion. Prefer assoc. degree in instrumentation or technical training in electronics. Perform calibration, trouble-shoot and repair, install and modify modern electronic and some pneumatic instrumentation. Cutter is located near Raleigh, N.C. Excellent salary, career opportunities, and comprehensive benefits package.
Send resume and salary history to: Cutter Laboratories, Inc., Personnel Dept., Hwy. 70 East, P.O. Box 507, Clayton, N.C. 27520. (919) 553-5011.
We are an Equal Opportunity Employer M/F